

## Index

### A

#### Activation controlled

[17.5: Kinetics of Reactions in Solution](#)

#### activity

[13.2: Strong Monoprotic Acids and Bases](#)

#### activity coefficient

[13.2: Strong Monoprotic Acids and Bases](#)

#### Allotropes

[4.3: Formulas and Their Meaning](#)

#### Anhydrous

[9.9: Bonding in Coordination Complexes](#)

#### antibonding

[9.8: Molecular Orbital Theory](#)

#### Avogadro's constant

[4.2: Avogadro's Number and the Mole](#)

#### Avogadro's law

[6.2: Ideal Gas Model - The Basic Gas Laws](#)

#### Avogadro's Number

[4.2: Avogadro's Number and the Mole](#)

#### azeotropes

[8.9: Distillation](#)

### B

#### band gap

[9.11: Bonding in Semiconductors](#)

#### barometer

[2.3: The Measure of Matter](#)

[3.1: Units and Dimensions](#)

#### battery

[16.6: Batteries and Fuel Cells](#)

#### biomagnification

[11.6: Phase Distribution Equilibria](#)

#### body centered cubic

[7.8: Cubic Lattices and Close Packing](#)

#### boiling point

[7.5: Changes of State](#)

#### bomb calorimeter

[14.5: Calorimetry](#)

#### bond dissociation energy

[14.6: Applications of Thermochemistry](#)

#### bond enthalpy

[14.6: Applications of Thermochemistry](#)

#### bond order

[9.8: Molecular Orbital Theory](#)

#### bonding molecular orbital

[9.8: Molecular Orbital Theory](#)

#### Boyle temperature

[6.6: Real Gases and Critical Phenomena](#)

#### Boyle's law

[6.2: Ideal Gas Model - The Basic Gas Laws](#)

#### Brownian motion

[17.5: Kinetics of Reactions in Solution](#)

### C

#### calorimetry

[14.4: Thermochemistry and Calorimetry](#)

[14.5: Calorimetry](#)

#### catalysis

[17.6: Catalysts and Catalysis](#)

#### catalysts

[17.6: Catalysts and Catalysis](#)

#### cathodic protection

[16.8: Electrochemical Corrosion](#)

#### cell potential

[16.3: Cell Potentials and Thermodynamics](#)

#### chain reaction

[17.4: Reaction Mechanisms](#)

#### Charles' Law

[6.2: Ideal Gas Model - The Basic Gas Laws](#)

#### chelate

[9.9: Bonding in Coordination Complexes](#)

#### chemical energy

[2.2: Energy, Heat, and Temperature](#)

#### chemisorption

[17.6: Catalysts and Catalysis](#)

#### chromatography

[2.1: Classification and Properties of Matter](#)

#### closed packing

[7.8: Cubic Lattices and Close Packing](#)

#### colligative properties

[15.7: Some Applications of Entropy and Free Energy](#)

#### colloid

[7.10: Colloids and their Uses](#)

#### conduction band

[9.11: Bonding in Semiconductors](#)

#### conjugated double bonds

[9.7: The Hybrid Orbital Model II](#)

#### conservation of energy

[14.2: The First Law of Thermodynamics](#)

#### coordination compound

[9.9: Bonding in Coordination Complexes](#)

#### coordination number

[9.5: Molecular Geometry](#)

#### corrosion

[16.8: Electrochemical Corrosion](#)

#### corrosion resistance

[16.8: Electrochemical Corrosion](#)

#### coupled reactions

[15.6: Free Energy and Equilibrium](#)

#### covalent bond

[9.1: Three Views of Chemical Bonding](#)

#### critical point

[7.5: Changes of State](#)

#### Crystallization

[2.1: Classification and Properties of Matter](#)

#### Cubic Lattices

[7.8: Cubic Lattices and Close Packing](#)

#### cumulene

[9.7: The Hybrid Orbital Model II](#)

### D

#### Dalton's Law of Partial Pressure

[6.3: Dalton's Law](#)

#### Daniell cell

[16.7: Timeline of Battery Development](#)

#### dative bond

[9.4: Polar Covalence](#)

#### degree of dissociation

[13.4: Conjugate Pairs and Buffers](#)

#### derived units

[3.1: Units and Dimensions](#)

#### diamagnetic

[9.8: Molecular Orbital Theory](#)

#### Diffusion Controlled

[17.5: Kinetics of Reactions in Solution](#)

#### dipole moment

[9.4: Polar Covalence](#)

#### distillation

[2.1: Classification and Properties of Matter](#)

[8.9: Distillation](#)

#### distribution coefficient

[11.6: Phase Distribution Equilibria](#)

#### distribution ratio

[11.6: Phase Distribution Equilibria](#)

### E

#### E.V.E.N. principle

[6.2: Ideal Gas Model - The Basic Gas Laws](#)

#### electrolysis

[16.10: Electrolytic Cells and Electrolysis](#)

#### electrolytic cell

[16.10: Electrolytic Cells and Electrolysis](#)

#### electronegativity

[9.4: Polar Covalence](#)

#### elementary reaction

[17.4: Reaction Mechanisms](#)

#### empirical formula

[4.3: Formulas and Their Meaning](#)

#### encounter pair

[17.5: Kinetics of Reactions in Solution](#)

#### enthalpy of vaporization

[14.4: Thermochemistry and Calorimetry](#)

#### entropy of mixing

[15.5: Thermodynamics of Mixing and Dilution](#)

#### entropy of solution

[8.2: Thermodynamics of Solutions](#)

#### equilibrium constant

[11.3: Reaction Quotient](#)

#### equivalence point

[13.5: Acid/Base Titration](#)

#### equivalent fraction

[13.5: Acid/Base Titration](#)

#### extensive property

[2.1: Classification and Properties of Matter](#)

### F

#### first law of thermodynamics

[14.2: The First Law of Thermodynamics](#)

#### formal charge

[9.4: Polar Covalence](#)

#### formula weight

[4.3: Formulas and Their Meaning](#)

#### fractionating column

[8.9: Distillation](#)

#### fuel cell

[16.6: Batteries and Fuel Cells](#)

### H

#### hardness

[7.7: Ionic and Ion-Derived Solids](#)

#### heat

[14.4: Thermochemistry and Calorimetry](#)

heat capacity

2.2: Energy, Heat, and Temperature

heat of atomization

14.4: Thermochemistry and Calorimetry

heat of vaporization

14.4: Thermochemistry and Calorimetry

heat transfer

14.1: Energy, Heat and Work

Hess' Law

14.4: Thermochemistry and Calorimetry

Hexagonal Closest Packed

7.8: Cubic Lattices and Close Packing

high spin

9.9: Bonding in Coordination Complexes

hybrid orbital

9.6: The Hybrid Orbital Model

hybridization

9.6: The Hybrid Orbital Model

hydrogen bonding

7.3: Hydrogen-Bonding and Water

hydrophobic effect

8.2: Thermodynamics of Solutions

## I

ice calorimeter

14.5: Calorimetry

ideal gas law

6.2: Ideal Gas Model - The Basic Gas Laws

indicators

13.5: Acid/Base Titration

insulator

9.11: Bonding in Semiconductors

intensive property

2.1: Classification and Properties of Matter

intermolecular forces

7.2: Intermolecular Interactions

interstitial sites

7.8: Cubic Lattices and Close Packing

ion pair

13.2: Strong Monoprotic Acids and Bases

ionic bond

9.1: Three Views of Chemical Bonding

ionic solid

7.7: Ionic and Ion-Derived Solids

ionization fraction

13.4: Conjugate Pairs and Buffers

## K

Kelvin

2.2: Energy, Heat, and Temperature

## L

Laing tetrahedron

7.1: Matter under the Microscope

Leveling Effect

10.3: Acid-base reactions à la Brønsted

lever rule

8.9: Distillation

ligand

9.9: Bonding in Coordination Complexes

liter (unit)

3.1: Units and Dimensions

low spin

9.9: Bonding in Coordination Complexes

lyophilic colloids

7.10: Colloids and their Uses

## M

mean free path

6.5: More on Kinetic Molecular Theory

mechanism

17.4: Reaction Mechanisms

metal

9.1: Three Views of Chemical Bonding

metallic bonds

9.10: Bonding in Metals

metric ton (unit)

3.1: Units and Dimensions

molar mass

4.3: Formulas and Their Meaning

molar volume

4.2: Avogadro's Number and the Mole

molecular orbital

9.8: Molecular Orbital Theory

Molecular orbital diagram

9.8: Molecular Orbital Theory

molecular weight

4.3: Formulas and Their Meaning

## N

normal melting

7.5: Changes of State

## O

octahedral hole

7.8: Cubic Lattices and Close Packing

osmosis

8.5: Colligative Properties - Osmotic Pressure

osmotic pressure

8.5: Colligative Properties - Osmotic Pressure

oxidation numbers

9.4: Polar Covalence

## P

paramagnetic

9.8: Molecular Orbital Theory

Pauli exclusion principle

5.5: The Quantum Atom

Pauling's rule

14.6: Applications of Thermochemistry

petroleum refining

8.9: Distillation

phase diagram

7.5: Changes of State

Phase Distribution Equilibria

11.6: Phase Distribution Equilibria

physisorption

17.6: Catalysts and Catalysis

PN Junction

9.11: Bonding in Semiconductors

Polar Covalence

9.4: Polar Covalence

polydentate ligand

9.9: Bonding in Coordination Complexes

Propagation of Error

3.2: The Meaning of Measure

Pseudoscience

1.2: Pseudoscience

## R

Rapid Equilibrium Approximation

17.4: Reaction Mechanisms

reaction quotient

11.3: Reaction Quotient

refractories

7.7: Ionic and Ion-Derived Solids

reverse osmosis

8.6: Reverse Osmosis

rounding

3.3: Significant Figures and Rounding off

rust

16.8: Electrochemical Corrosion

## S

Sabatier Principle

17.6: Catalysts and Catalysis

Sacrificial Coatings

16.8: Electrochemical Corrosion

semiconductor

9.11: Bonding in Semiconductors

SI units

2.3: The Measure of Matter

3.1: Units and Dimensions

significant figures

3.3: Significant Figures and Rounding off

simple cubic structure

7.8: Cubic Lattices and Close Packing

solvent cage

17.5: Kinetics of Reactions in Solution

solvent kinetic effect

17.5: Kinetics of Reactions in Solution

sp<sup>2</sup> hybrid orbital

9.6: The Hybrid Orbital Model

sp<sup>3</sup> hybrid orbital

9.6: The Hybrid Orbital Model

sp<sup>3</sup>d

9.7: The Hybrid Orbital Model II

sp<sup>3</sup>d<sup>2</sup> hybrid orbital

9.7: The Hybrid Orbital Model II

specific heat

2.2: Energy, Heat, and Temperature

spectrochemical series

9.9: Bonding in Coordination Complexes

standard state

14.4: Thermochemistry and Calorimetry

strong acid

13.2: Strong Monoprotic Acids and Bases

strong base

13.2: Strong Monoprotic Acids and Bases

super acid

13.2: Strong Monoprotic Acids and Bases

surface tension

7.3: Hydrogen-Bonding and Water

## T

tetrahedral hole

7.8: Cubic Lattices and Close Packing

The Nernst Equation

[16.4: The Nernst Equation](#)

thermal energy

[2.2: Energy, Heat, and Temperature](#)

thermosetting polymers

[7.9: Polymers and Plastics](#)

titration

[13.5: Acid/Base Titration](#)

titration analysis

[13.5: Acid/Base Titration](#)

titration curve

[13.5: Acid/Base Titration](#)

triple point

[7.5: Changes of State](#)

turnover number

[17.6: Catalysts and Catalysis](#)

## U

ultramicroscope

[7.10: Colloids and their Uses](#)

## V

vapor pressure

[7.5: Changes of State](#)

VSEPR

[9.5: Molecular Geometry](#)

## W

water of hydration

[9.9: Bonding in Coordination Complexes](#)

work

[14.1: Energy, Heat and Work](#)